

	Level One	Level Two	Level Three	Level Four
Magnetism	<div><div>M</div><div>Use a magnet to find out which materials are magnetic and which are not.</div></div>	<div><div>M</div><div>Play with different strength bar magnets which are fixed inside a ball (eg.kinder egg containers).</div></div>	<div><div>M</div><div>Play with a bar magnet and iron filings that are held in between two see-through plastic sheets.</div></div> <div><div>M</div><div>Play with bar magnets, identify and describe the idea of north and south poles.</div></div>	<div><div>M</div><div>Draw a magnetic field around a magnet (could be a hard drive magnet) with the help of some iron filings, including the direction of the field.</div></div>
Electricity	<div><div>E</div><div>Put copper wire, a light and a battery together to make a basic electric circuit.</div></div>	<div><div>E</div><div>Put different materials in the circuit to see the brightness of the light change.</div></div> <div><div>E</div><div>Put different power rated (Watts) lights into a circuit to see different levels of brightness.</div></div>	<div><div>M</div><div>Make a paperclip magnet by rubbing a paperclip on a bar magnet.</div></div> <div><div>E</div><div>Use beads to describe how electricity is transferred around a circuit.</div></div> <div><div>E</div><div>Make a circuit with resistors and describe what voltage, current and resistance are.</div></div> <div><div>E</div><div>Use different light fittings and explore their differences.</div></div>	<div><div>M</div><div>E</div><div>Take apart a hard drive and identify the magnets, wires and resistors.</div></div> <div><div>E</div><div>Make a simple LED circuit with LED's pointing in different directions, in series and in parallel.</div></div> <div><div>E</div><div>Calculate the power being put out by the battery (Watts), and how this changes with the change in resistance.</div></div>
Bearings	<div><div>B</div><div>Play with toy cars and pay special attention to how the wheels turn.</div></div>	<div><div>B</div><div>Take apart a bearing from a bike wheel and see how balls inside the wheel let it turn easily.</div></div>	<div><div>B</div><div>With pieces of card and bits of dowel make little toy cars and see how far they will roll by themselves.</div></div>	
Construction	<div><div>C</div><div>See how strong different fixtures are such as bolts, glues, screws, staples etc...</div></div>	<div><div>C</div><div>Glue together two pieces of wood in different ways and see how strong the joints are.</div></div>	<div><div>C</div><div>Use different methods to hold together two pieces of wood (bolts, screws, glue, nails)</div></div>	<div><div>B</div><div>C</div><div>Attach a hard drive disk to a piece of wood using a bearing to let it spin really easily.</div></div>